

4. VIRAL HEPATITIS

4.1. Antenatal screening of HBsAg and prevention of perinatal transmission of hepatitis B using hepatitis B immunoglobulin and/or hepatitis B vaccine in a tribal community

Hepatitis B infection is highly endemic among the tribes of these islands with the HBsAg rates ranging between 23.3% among the Nicobares to 31% among the Onges and 37.8% among the Shompens. The rates of HBsAg observed among these tribes are the highest reported rates in India. The infection was found to be transmitted both by vertical and horizontal routes and 20% of the antenatal mothers were positive for HBsAg. Considering the high endemicity of hepatitis B infection among these tribes, it is necessary to introduce hepatitis B vaccine in the immunization schedule for the tribal population of these islands. However, the usual schedule of hepatitis B vaccination starting at 6th week might not protect the infant against perinatal transmission of HBV. An alternative is to start the vaccination on 0th day itself and also administer passive immunization using hepatitis B immunoglobulin.

The administration of hepatitis B immunoglobulin (HBIG) immediately after birth followed by hepatitis B vaccination has been shown to prevent perinatal transmission of HBV in up to 95% of infants of HBsAg carrier mothers. HBIG is however very expensive and has to be administered within 48 hours of birth. On the other hand, some studies have shown that the hepatitis B vaccine alone administered at 0, 1 and 2 months is equally effective in preventing vertical transmission. Studies comparing the efficacy of the two vaccination schedules are limited and in majority of these studies, except the one carried out in Thailand, the sample size was very small. The study carried out among the infants of HBsAg positive

mothers in Thailand showed no statistical difference in long-term protective efficacy between the two vaccination schedules.

With this background, we initiated this project with the objective of interrupting the perinatal spread of infection in a tribal community by screening the antenatal mothers for HBsAg and administering hepatitis B vaccine alone or in combination with HBIG. The study also would assess the efficacy of hepatitis vaccine alone or in combination with HBIG among newborns of HBsAg positive mothers, the results of which would be helpful in formulating strategies for prevention of perinatal transmission in this tribal community.

The project was initiated and screening of antenatal women started at various villages of Car Nicobar since April 2004. However, due to the earthquake and tsunami of December 2004, the project got delayed as many of the women already screened had either died in the tsunami or migrated to temporary shelters in the interior jungles of the island.

After the resettlement of the people in intermediate shelters and reconstruction of the subcentres, where antenatal mothers are registered, recruitment of the pregnant women continued. After reinitiating recruitment, a total of 63 pregnant women registered at present in different subcentres have been included in the study. They were interviewed and their consent to participate in the study has been obtained. Blood samples were obtained from these pregnant women. HBsAg ELISA was done on the samples from 81 of

the women and 16 (19.8%) were found to be positive. The expected dates of delivery of these women ranges from end of December 2006 to March 2007. The included mothers have been given codes and at the time of the delivery, these codes will be matched with randomization codes already generated and will be allotted to the corresponding group for administering vaccine or vaccine along with immune

globulin. Steps for procuring immune globulin and vaccine is underway. Administration of vaccine/immune globulin is expected to start by middle of February

The number of pregnant women registered in each village, the number screened for HBsAg and the number positive is listed in Table 4.1.

Table 4.1. Pregnant women registered, tested for HBsAg and positive in Car Nicobar

Pregnant women				
Sl	Village	Registered	Tested for HBsAg	Positive
1	Jayanthi	22	17	3
2	Sawai	18	14	3
3	Mus	16	12	2
4	Big Lapathy	5	3	1
5	Arong	11	8	2
6	Kakana	5	3	1
7	Teetop	7	4	1
8	Small Lapathy	6	5	1
9	Kinmai	5	4	1
10	Tamaloo	6	5	1
11	Perka	3	2	0
12	Kinyuka	2	2	0
13	Headquarter	2	2	0
Total		108	81	16